

# **A Study of the Relationship between Teamwork and Achievement: A Case Study of the Freshman Class at the Naresuan University International College**

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## Introduction

As teachers we are always looking for ways for our students to improve. We explore different methods and approaches to teaching. In recent years, researchers have studied the students' learning styles and strategies (see Oxford, 2001 for a review) with a view to better understanding how these learning variables impact on student achievement. Some researchers have focused on specific affective variables such as anxiety (Horwitz et al, 1986) while others have examined specific cognitive factors such as dependent/independent cognitive styles (Naiman et al., 1975).

In this paper I would like to report on the results of a study that examined the relationship between termwork, defined as homework and attendance, and test results. Both of these variables have been extensively studied in relation to primary and secondary school students' learning achievement.

Reporting on a study commissioned by Ofsted and carried out by the National Foundation for Educational Research which reviewed studies on homework carried out from 1988-2001 in the U.S. and the U.K.; Caroline Sharp, the chief researcher, stated that time spent on homework was associated with higher academic achievement for secondary school students but that no conclusive evidence was found for primary school students (Sharp, 2001).

Cooper and Valintine (2001) in discussing homework and achievement have stated that, "The association grows stronger for older groups of students." Harris (1999 cited in Plato) reported that high school students who did homework had higher achievement than those who did not do homework by 69 percent.

The amount of homework has also been examined. Sharp (2001) reported that students who do very little or a great deal of homework achieve less than those who do moderate amounts of homework. From a review of sixty-four studies on homework mainly in the U.K. and the U.S., it was found that in general the amount of homework proposed was ten minutes per day from year one of elementary school to a maximum of two hours a day by year twelve (Rindelfleisch and Alexander, 2004). Cooper (1994) recommended that homework should be both required and voluntary with the focus being on completion and not grading. A number of educators have pointed out the advantages of homework including a better understanding and greater retention of the material, improved information processing, self-discipline, and self-responsibility.

A search of Thai Theses On-line covering the period from 1994-2003 identified a number of studies related to perceptions of and attitudes towards homework, and three other studies related to homework. A 1992 study by Tipchai of mathematic learning achievement of Mathayon Suksa three students comparing the effects of quizzing, review, and homework showed higher achievement for both the quizzing and review group. Sirithong (1994) studied the effect of homework when students were classified by ability. No difference was found. However, pre-post achievement tests did show a

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Special thanks is given to Dr. Arunee Onsawad for her assistance in the statistical analysis.

significant difference at the .05 level. The third study by Chawanatiwan (1998) did not study achievement but focused on motivating students to complete homework assignments. She found that students who did less than 50 percent of their homework and were given token reinforcement for homework increased the amount of homework they did.

The research to be reported on here deals with the relationship between termwork and achievement. Termwork in this study, as previously noted, includes homework and attendance. In an article for *The Atlantic Monthly*, Jonathan Rauch (2004) suggested what he calls a 'sensible, cheap, and relatively straight forward' way to increase the achievement levels of American students: 'attending class and studying.'

In a 1993 study, Green found a correlation of .66 between attendance and grades for first year psychology students. Van Blerkon (1992) studied why students missed class. The most frequent reasons were pressure from other courses, becoming discouraged, and believing attendance will have little effect on grades. In a follow-up study he found fairly low correlations (.12 to .20) between academic perseverance, self-efficiency, class attendance, and course grades. Urban-Lurain and Weinshank (2000) studied the relationship between attendance, classwork, homework, and grades based on collaborative tasks. The results showed that overall attendance predicted success on the task tests. A search of Thai theses showed no related literature on the topic of attendance.

#### Objective of the Study

The purpose of this research was to study the relationship between termwork and achievement of the freshman class studying English Foundations at the Naresuan University International College (NUIC), overall and as classified by major.

#### Methodology

The study was conducted with the freshman class studying English Foundations in the second semester of the 2004 academic year at the Naresuan University International College. There were eighteen Nursing students, twenty-seven Human Resource Management students, seventy-one Law students, and seventy-eight Tourism Management students. The 194 students studied English in six sections: three sections for Law and HRM and 3 sections for Tourism Management and Nursing. There were three instructors. Each section was taught by the three instructors with one instructor teaching for five weeks and then rotating to another section. All tests were constructed by the three instructors collaboratively. Tests included three vocabulary quizzes, a mid term, and final. The tests represented seventy percent of the final grade: three vocabulary quizzes for ten percent, mid term for thirty percent and final for thirty percent. Each instructor gave ten percent of the termwork grade. Termwork included attendance and homework. The homework included completing the workbook assignment for each unit, crosswords for each unit, and assignments based on the text. *The New Headway Intermediate* text and workbook were used for the English Foundations course. The workbook assignments and crosswords focused on completion of the task while other homework assignments focused on quality of the product. The Statistical Package for Social Sciences (SPSS) program was used to calculate the mean, standard deviation, and correlation between termwork and tests.

## Results

Overall the students' levels of English as evidenced by their test grades was quite low (Table 1).

Table 1 Test Grades and Termwork for the NUIC Freshman Class Classified by Major

| Major   | Test Grades |       |           |       | Termwork |           |      |
|---------|-------------|-------|-----------|-------|----------|-----------|------|
|         | N           | Max   | $\bar{x}$ | S.D.  | Max      | $\bar{x}$ | S.D. |
| Nursing | 18          | 42.93 | 32.25     | 6.11  | 27.00    | 22.17     | 2.62 |
| HRM     | 27          | 51.17 | 26.29     | 10.04 | 26.50    | 16.94     | 5.98 |
| Law     | 71          | 62.33 | 35.73     | 11.51 | 29.30    | 19.63     | 7.06 |
| Tourism | 78          | 62.53 | 32.86     | 11.46 | 29.10    | 19.47     | 5.30 |
| Total   | 194         | 62.53 | 32.94     | 11.24 | 29.30    | 19.42     | 6.03 |

Note: The total for the test grades is 70 and the total for term work is 30.

The students overall and by major had low test grades. The mid term and final exams focused on grammar usage. As a group only the Law students had a mean score representing over 50% of the total test grade score with a mean of 35.73 followed by Tourism, Nursing, and HRM major students with mean scores of 32.86, 32.25, and 26.29 respectively. The grades for term work were higher with the highest score going to the Nursing major group with a mean of 22.17 followed by Law, Tourism, and HRM with mean scores of 19.63, 19.47, and 16.94 respectively.

A test for the correlation between test grades and termwork showed that overall the correlation was quite significant with a Pearson correlation of .79 at the .01 level of significance. Indeed, the correlation was significant at the .01 level for all three teachers: .66, .55, and .48. When classified by major there was a significant relationship between grades on tests and termwork for the Tourism major students for all three teachers at the level of .05 .69, .59, and .35; for the HRM major students at the .01 level for one teacher, .59 and at the .05 level for the other two teachers, .40 and .41; and for the Law students at the .01 level of significance for all three teachers, .74, .66, and .56. There was no significant correlation between test grades and termwork grades for all three teachers for the Nursing students, .35, .28, and .19. This is not really surprising if we consider that this small group of eighteen Nursing students appears to be very homogeneous as can be seen by the low level of deviation in their grades as seen in table 1. While weak in English achievement as seen in their test grades, their termwork score was higher than the class average.

A further study was carried out for the termwork grade from one of the three instructors to examine the two components of termwork: homework and attendance. Table 2 gives the mean scores for one of the instructors for both attendance and homework. Attendance accounted for twelve percent of the termwork points for this instructor. The class roll was called at ten minutes into the beginning of each class; therefore, late students did not get points for attendance. Homework, which accounted for eighty-eight percent of the termwork grade included turning in workbooks after each of the six units (28 percent), doing crosswords for each unit (28 percent), and homework assignments (44 percent). The homework assignments included letter writing, adding

connectors appropriately to a paragraph, and short pieces of descriptive and narrative writing.

Table 2 Attendance and Homework Points

| Major   | N   | Attendance |       | Homework  |       |
|---------|-----|------------|-------|-----------|-------|
|         |     | $\bar{x}$  | S.D.  | $\bar{x}$ | S.D.  |
| Nursing | 18  | 88.61      | 10.81 | 92.67     | 6.58  |
| HRM     | 27  | 74.26      | 20.28 | 62.93     | 30.64 |
| Law     | 71  | 75.59      | 25.27 | 68.69     | 29.61 |
| Tourism | 78  | 83.03      | 17.89 | 74.58     | 22.24 |
| Total   | 194 | 79.60      | 21.12 | 72.48     | 26.52 |

$\bar{x}$  here is out of a total of 100

Overall it can be seen that attendance for this instructor is just under eighty percent (mean of 79.60) and homework was at seventy-two percent (mean of 72.48). With regard to both attendance and homework the Nursing students' scores are highest at 88.61 and 92.67 respectively followed by Tourism students (83.03 and 74.58), Law students (75.59 and 68.69), and HRM students (74.26 and 62.93). With the exception of the Nursing students, attendance scores were higher than homework scores.

When attendance and homework were analyzed for relationships with test scores, it was found that overall both attendance and homework had statistically significant correlations with the students' test scores at the .01 level: .30 and .33 respectively. When examined by major, it was found that there were no statistically significant relationships between attendance and test scores for homework and test scores for students majoring in Nursing or HRM. Attendance and homework scores did, however, show statistically significant relationships at the .01 level of significance for the Law majors (.41 and .34 respectively) and for the Tourism major students for attendance at the .05 level of significance (.26) and for homework at the .01 level of significance (.39).

## Discussion

This study was conducted to better understand the relationship between termwork and test grades in a university freshman course. In designing the required English Foundations course for the freshman class at the International College, it was decided that tests would be given a seventy percent weight for the course and the remaining thirty percent would be termwork which included homework assignments and class attendance. It is generally considered that homework reinforces classwork. It allows students to revise their lessons and work at their own pace. Homework assignments included a variety of formats. Some assignments such as workbooks were graded for completion and not accuracy. Students completed the workbook unit, checked the key on their own, and if they had questions wrote a note in their workbook. When the instructor checked the workbook assignments, they would also respond to such queries. Students who either failed to turn in the workbook or failed to complete the exercise didn't get full points for

the assignment. The assignment was about a half-page a day and was to be turned in every two weeks. Completion of the assignment on time also fosters the students' ability to manage their time.

Attendance for this course was mandatory. University guidelines state that if students fail to attend eighty percent of the class time, instructors may choose to bar the students from taking final exams. Since the objectives of this course were to give the students the foundations they need in English to successfully study in English, class attendance was viewed as providing students with an opportunity to interact in English with the instructor and their peers. The instructors tried a number of ways to motivate students to consistently attend class on time. One instructor conducted a lottery. On the first day of class he/she explained the ground rules to which all the students agreed. Students who entered the classroom late had to contribute ten baht which was put in a bottle. If the teacher was late for class he/she put in fifty baht. At the end of class one student pulled out the name of a student from the bottle in which the names of all the students had been entered on slips of paper. If the person was present in class, he/she got the money in the bottle; otherwise, the money remained in the bottle for another day. In addition, there were many in-class activities to motivate class attendance and participation.

Results of this study show that overall for this group of first year university students, termwork and the individual components that made up termwork, homework and attendance, significantly correlated with achievement scores on tests. These relationships were also true for the Law and Tourism major students. The relationships between homework and tests, and attendance and tests was not evident for the small homogenous group (N=18) of Nursing students nor for the HRM students whose attendance, homework scores and test scores tended to be quite low possibly indicating a lack of motivation to study.

Overall it is suggested that termwork in addition to achievement tests is a valuable component of course evaluation. Further study needs to be conducted to investigate factors like attendance and homework to examine causal affects.

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